

Write your name here

Surname

Other Names

Mathematics

**June 2018 Paper 1 (Non Calculator)
Part 2 (Second half of the paper)
Edexcel Foundation Tier**

Time: 45 minutes

Q	Topic	Max Mark	My Marks
16	Substitution, Expanding, Solving Equations	6	
17	Writing Ratio	2	
18	Venn Diagrams	3	
19	Adding and Dividing Fractions	4	
20	Ratio Problems	3	
21	Percentage Change (Profit)	4	
22	Estimation, Compound Measures (Speed)	4	
23	Plans and Elevations, Surface Area	6	
24	Coordinates, Vectors	5	
25	Drawing Linear Graphs	3	
26	(Column) Vectors	2	
	Total	42	

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16 $P = 4x + 3y$

$$x = 5$$

$$y = -2$$

(a) Work out the value of P .

.....
(2)

(b) Expand $4e(e + 2)$

.....
(2)

(c) Solve $3(m - 4) = 21$

$m =$
(2)

(Total for Question 16 is 6 marks)



17 There are some chocolates in a box.

$\frac{1}{4}$ of the chocolates contain nuts.

The rest of the chocolates do not contain nuts.

Write down the ratio of the number of chocolates that contain nuts to the number of chocolates that do not contain nuts.

Give your answer in the form $1 : n$

(Total for Question 17 is 2 marks)



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18 $A = \{\text{multiples of 5 between 14 and 26}\}$

$B = \{\text{odd numbers between 14 and 26}\}$

(a) List the members of $A \cup B$

.....
(2)

(b) Describe the members of $A \cap B$

.....
(1)

(Total for Question 18 is 3 marks)



19 (a) Work out $2\frac{1}{7} + 1\frac{1}{4}$

.....
(2)

(b) Work out $1\frac{1}{5} \div \frac{3}{4}$

Give your answer as a mixed number in its simplest form.

.....
(2)

(Total for Question 19 is 4 marks)

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20 In a village

the number of houses and the number of flats are in the ratio 7 : 4

the number of flats and the number of bungalows are in the ratio 8 : 5

There are 50 bungalows in the village.

How many houses are there in the village?

.....
(Total for Question 20 is 3 marks)



- 21 Renee buys 5 kg of sweets to sell.
She pays £10 for the sweets.

Renee puts all the sweets into bags.
She puts 250 g of sweets into each bag.
She sells each bag of sweets for 65p.

Renee sells all the bags of sweets.

Work out her percentage profit.

.....%

(Total for Question 21 is 4 marks)



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22 A cycle race across America is 3069.25 miles in length.

Juan knows his average speed for his previous races is 15.12 miles per hour. For the next race across America he will cycle for 8 hours per day.

(a) Estimate how many days Juan will take to complete the race.

.....
(3)

Juan trains for the race.
The average speed he can cycle at increases.
It is now 16.27 miles per hour.

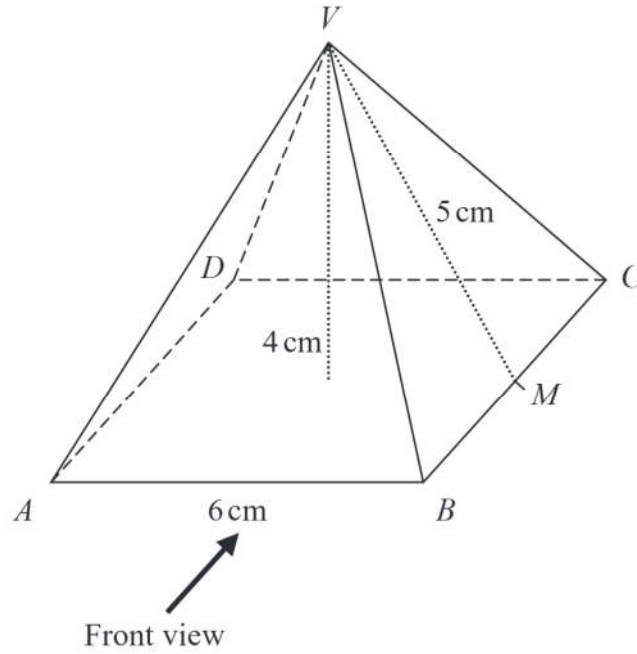
(b) How does this affect your answer to part (a)?

.....
.....
(1)

(Total for Question 22 is 4 marks)

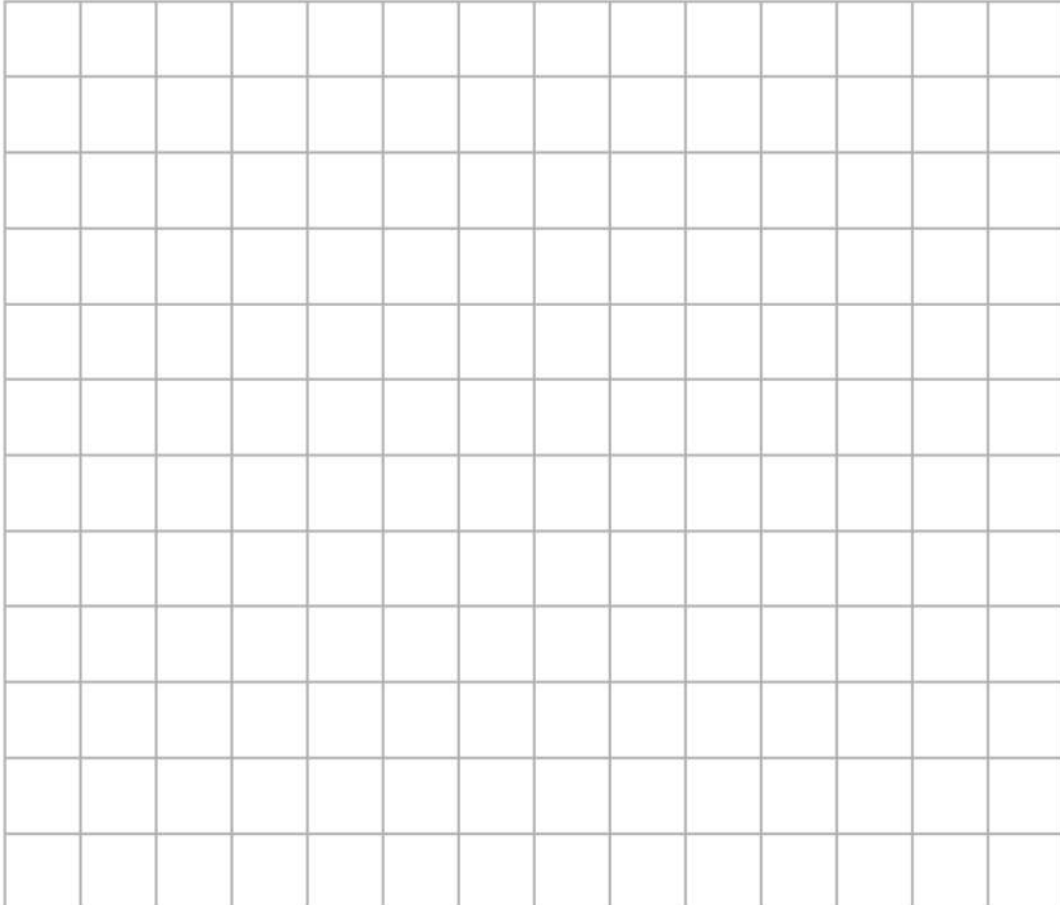


23 Here is a solid square-based pyramid, $VABCD$.



The base of the pyramid is a square of side 6 cm.
 The height of the pyramid is 4 cm.
 M is the midpoint of BC and $VM = 5$ cm.

(a) Draw an accurate front elevation of the pyramid from the direction of the arrow.



(2)



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(b) Work out the total surface area of the pyramid.

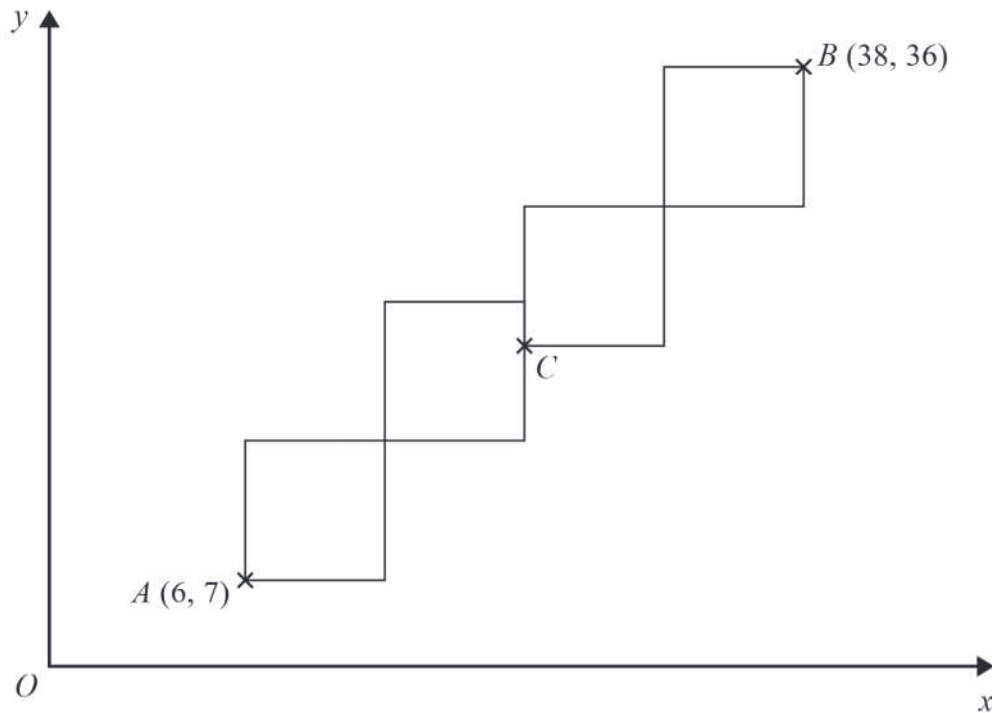
.....
(4)

(Total for Question 23 is 6 marks)



24 A pattern is made from four identical squares.

The sides of the squares are parallel to the axes.



Point A has coordinates $(6, 7)$

Point B has coordinates $(38, 36)$

Point C is marked on the diagram.

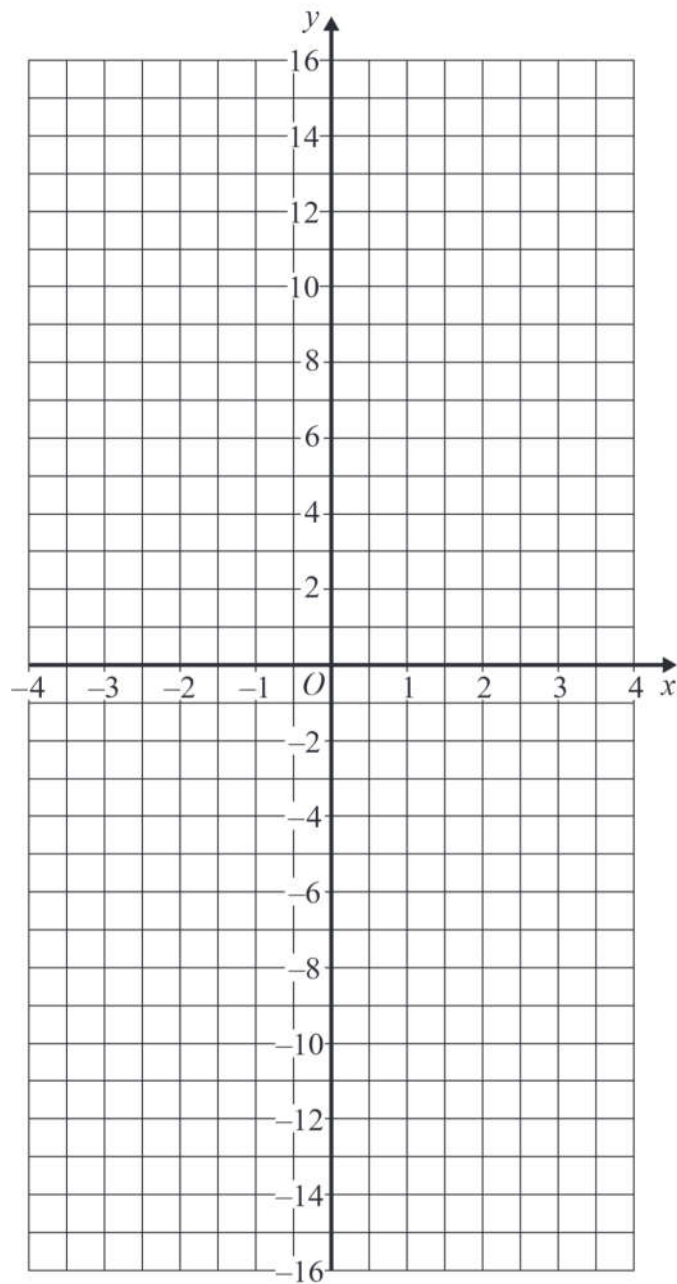
Work out the coordinates of C .

(.....,))

(Total for Question 24 is 5 marks)



25 On the grid below, draw the graph of $y = 1 - 4x$ for values of x from -3 to 3



(Total for Question 25 is 3 marks)



$$26 \quad \mathbf{a} = \begin{pmatrix} 5 \\ 2 \end{pmatrix} \quad \mathbf{b} = \begin{pmatrix} -1 \\ 7 \end{pmatrix}$$

Work out $2\mathbf{a} + \mathbf{b}$ as a column vector.

$$\begin{pmatrix} \\ \text{---} \\ \\ \text{---} \end{pmatrix}$$

(Total for Question 26 is 2 marks)

TOTAL FOR PAPER IS 80 MARKS

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